

Public Health – Seattle and King County

Sexually Transmitted Diseases Epidemiology Report, 2004



Public Health – Seattle and King County 2004 STD Epidemiology Report

Data sources

King County morbidity data:

This report describes case numbers and rates of infection for three sexually transmitted infections in the King County population. These three infections (chlamydial infection, gonorrhea, and syphilis) are notifiable diseases in Washington State. Medical providers and laboratories are required by law to report all laboratory confirmed cases of these infections to Public Health – Seattle & King County (PHSKC). The PHSKC STD Control Program forwards these reports to the Washington State Department of Health. A copy of the case report form is included in Appendix A. For this report, yearly infection totals are based on year of diagnosis, rather than year of report. The numbers contained in the Chlamydial Infection, Gonorrhea, and Syphilis sections of this report are for 1992-2004 cases reported and processed by the Washington State Department of Health through April 15, 2005.

Population data:

Incidence rates were calculated using population estimates provided by the Washington State Office of Financial Management for intercensal years, and U.S. census data for 2000.

Population estimates for men who have sex with men (MSM), and well as HIV positive and negative MSM, were provided by the PHSKC HIV/AIDS Epidemiology Unit.

Data limitations: Notifiable disease data are subject to several limitations. In some cases, considerable differences in numbers and rates of infection between subgroups are attributable in large part to screening and testing practices. For example, the rate of chlamydial infection in King County is substantially higher among women than men, reflecting national recommendations that young women be screened for chlamydia annually, and the absence of corresponding recommendations for young men.

While chlamydial infection, gonorrhea, and syphilis are all notifiable diseases in Washington State, these data are subject to underreporting by physicians and laboratories. Additionally, because undiagnosed infections cannot be reported, infections which are frequently experienced with no symptoms, such as chlamydia, may exist at higher levels in the population than notifiable disease data indicate.

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2004 STD Epidemiology Report**

Table of Contents:

Chlamydial Infection

Summary.....	1
Table 1: Number of Reported Cases and Chlamydia Incidence, 2003.....	3
Table 2: Number of Reported Cases and Chlamydia Incidence in Men and Women, by Age and Race, 2004.....	3
Table 3: Number of Reported Chlamydia Cases and Incidence among Men and Women, 1992-2004.....	4
Table 4: Number of Reported Chlamydia Cases and Incidence among Men and Women Ages 15-29, 1992-2004.....	4
Figure 1: Chlamydia Incidence Among Women Ages 15-29, King County, Washington State, and U.S., 1992-2004.....	5
Figure 2: Chlamydia Prevalence among Women Ages 15-29 in King County and Other Washington Counties, Infertility Prevention Project, 1998-2003.....	6
Figure 3: Chlamydia Laboratory Tests Performed in King County and Other Washington Counties through the Infertility Prevention Project, 1998- 2003.....	7
Figure 4: Reported Chlamydial Infection by Age among Women, 1992-2004.....	8
Figure 5: Reported Chlamydial Infection by Race among Women Ages 15-29, 1992-2004.....	9

Gonorrhea

Summary.....	10
Table 5: Number of Reported Cases and Gonorrhea Incidence, 2004.....	11
Table 6: Number of Reported Cases and Gonorrhea Incidence among Men and Women, by Age and Race, 2004.....	11
Table 7: Number of Reported Cases and Gonorrhea Incidence among Men and Women, 1992-2004.....	12
Table 8: Number of Reported Cases and Incidence among Men and Women Ages 15-29, 1992-2004.....	12
Figure 6: Gonorrhea Incidence Among Women ages 15-29, King County, Washington State, and U.S., 1992-2004.....	13
Figure 7: Gonorrhea Incidence by Age Among Women, 1992-2004.....	14
Figure 8: Gonorrhea Incidence by Race Among Women Ages 15-29, 1992-2004.....	15

Syphilis

Summary.....	16
Table 9: Reported Cases and Incidence of Early Syphilis, 2004.....	16
Table 10: HIV Status and Risk Behaviors among Early Syphilis Cases by Gender And Sexual Orientation.....	17
Table 11: Number of Reported Early Syphilis Cases and Incidence among Men and Women, 1992-2004.....	18
Table 12: Number of Reported Early Syphilis Cases and Incidence among MSM and Heterosexual Men, 1992-2004.....	18
Figure 9: Reported Cases of Early Syphilis by Sexual Orientation.....	19
Figure 10: Percent of Early Syphilis Cases among MSM by HIV Status, 1992-2004.....	20
Figure 11: Early Syphilis Incidence by HIV Status in MSM, 1992-2004.....	21

Men Who Have Sex with Men

Summary.....	22
Figure 12: Gonorrhea, Chlamydial Infection, and Early Syphilis among MSM, 1993-2004.....	23
Figure 13: Incidence of Gonorrhea, Chlamydial Infection, and Early Syphilis among MSM, 1993-2004.....	24

Chlamydial Infection

In 2004, 5428 cases of chlamydial infection were reported to Public Health Seattle and King County (PHSKC), for an overall incidence of 305.1 per 100,000 residents (Table 1). Among women, 3647 cases were reported, for an incidence of 408.1 per 100,000 women. Among men, the number of cases reported (1781) and incidence of infection (201.1 per 100,000 men) were much lower, most likely reflecting routine recommended screening for chlamydial infection among young women.

Across racial groups, incidence of infection was highest in African American women (1533 per 100,000 persons) and men (1076 per 100,000 persons), and lowest in white women and men (257.9 and 121.0 per 100,000 persons, respectively) [Table 2]. Among women, incidence was highest among 15-19 and 20-24 year olds, while among men, incidence of chlamydial infection was highest in 20-24 and 25-29 year olds.

Chlamydia incidence among 15-29 year old King County women rose in 2004, part of a trend in increasing rates in this age group since 1997 (Table 4, Figure 1). Rates of chlamydial infection among women in this age group have also been increasing in Washington State and the U.S. during the same time period, with rates at the national level increasing most steeply (Figure 1). The dramatic increase in chlamydial incidence seen among U.S. women during this time is likely due in part to increased screening among women in states which did not previously have screening programs. Additionally, changes in testing technology may have influenced trends in incidence. Locally, PHSKC began pilot testing nucleic acid amplification tests (NAATS) for chlamydial infection in 1994; this more sensitive test may have resulted in increases in chlamydia diagnoses in the years following 1994. All PHSKC clinics were using NAATs by the end of 1999. Incidence of chlamydial infection among 15-29 year old King County men decreased slightly from 2003 to 2004, despite an overall upward trend in rates over time among men in this age group (Table 4).

The Infertility Prevention Project (IPP) is a national program that provides routine screening and treatment services for chlamydial infection to patients seen in family planning, sexually transmitted disease, and selected other public clinics. All patients meeting selective screening criteria are screened in these clinics, thereby providing an estimate of the prevalence of infection among young women, regardless of symptoms. Figure 2 displays IPP positivity rates (the number of positive chlamydia tests divided by all chlamydia tests performed) among women ages 15-29 for King County and all other Washington Counties for 1998-2003. IPP data for 2004 were not available at the time this report was prepared. While chlamydial infection *incidence* increased among King County women from 2002-2003, following a general upward trend in incidence (Figure 1), chlamydial infection *positivity* decreased among King County women from 2003-2004 (Figure 2). This apparent contradiction in trends may be reflective of the differing populations serving as the base population for incidence (all county women) and IPP positivity (women tested in clinics participating in the IPP). This difference may also be related to increasing numbers of tests for chlamydial infection being performed over time in King County as a part of the IPP (Figure 3).

Because reporting is likely more complete among women than among men and morbidity associated with chlamydial infection is concentrated in women , age and race trends for chlamydial infection over time are shown for women only (Figures 4 and 5). Analysis of trends over time in race are also limited to women ages 15-29, the group in which incidence is highest.

Table 1: Number of Reported Cases and Chlamydia Incidence, King County, WA, 2004

		Cases	Incidence per 100,000 population
Sex	Women	3647	408
	Men	1781	201
	Total cases	5428	305.1

Table 2: Number of Reported Cases and Chlamydia Incidence in Men and Women, by Age and Race King County, WA, 2004

		Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
		Women (N=3647)		Men (N=1781)	
Race*	White	1477	257.9	698	121.0
	Black	676	1533.9	504	1076.5
	Nat Am	71	997.1	16	221.3
	Asian/PI	433	459.1	135	152.8
	Other	75		44	
	Multiple	199		49	
	Unknown	716		335	
Age*	0-9 years	2	1.9	0	0.0
	10-14 years	48	88.2	1	1.8
	15-19 years	1275	2363.9	256	458.3
	20-24 years	1366	2174.6	520	814.9
	25-29 years	564	850.5	381	544.1
	30-34 years	202	276.1	241	304.5
	35-44 years	150	103.1	273	181.2
	45-55 years	29	20.8	88	64.2
	>=56 years	3	1.6	14	8.7
	Unknown	8		7	

* Cases with unknown race or age were included in race and age specific rates after being distributed among race/age categories based on the distribution of cases with known race or age. In 2004, among women, 716 case reports were missing race, and 8 missing age, and among men, 335 case reports were missing race, and 7 were missing age.

Race specific rates exclude cases reported with "multiple" or "other" races.

**Table 3: Number of Reported Chlamydia Cases and Incidence among Men and Women
King County, WA, 1992-2004**

Year	Women		Men		Total	
	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	3030	379.2	968	124.1	3998	253.2
1993	2566	316.2	813	102.3	3379	210.4
1994	2745	334.8	811	100.8	3556	218.9
1995	2414	291.5	804	98.7	3218	195.9
1996	2359	282.3	880	106.8	3239	195.2
1997	2247	265.9	905	108.4	3152	187.7
1998	2454	286.8	1073	126.7	3527	207.2
1999**	2690	311.4	1336	156.0	4026	234.1
2000	3004	344.3	1441	166.7	4445	255.9
2001	2862	324.1	1390	158.8	4252	241.8
2002	3007	337.4	1468	166.2	4475	252.2
2003	3441	385.1	1748	197.4	5189	291.6
2004	3647	408	1781	201	5428	305.1

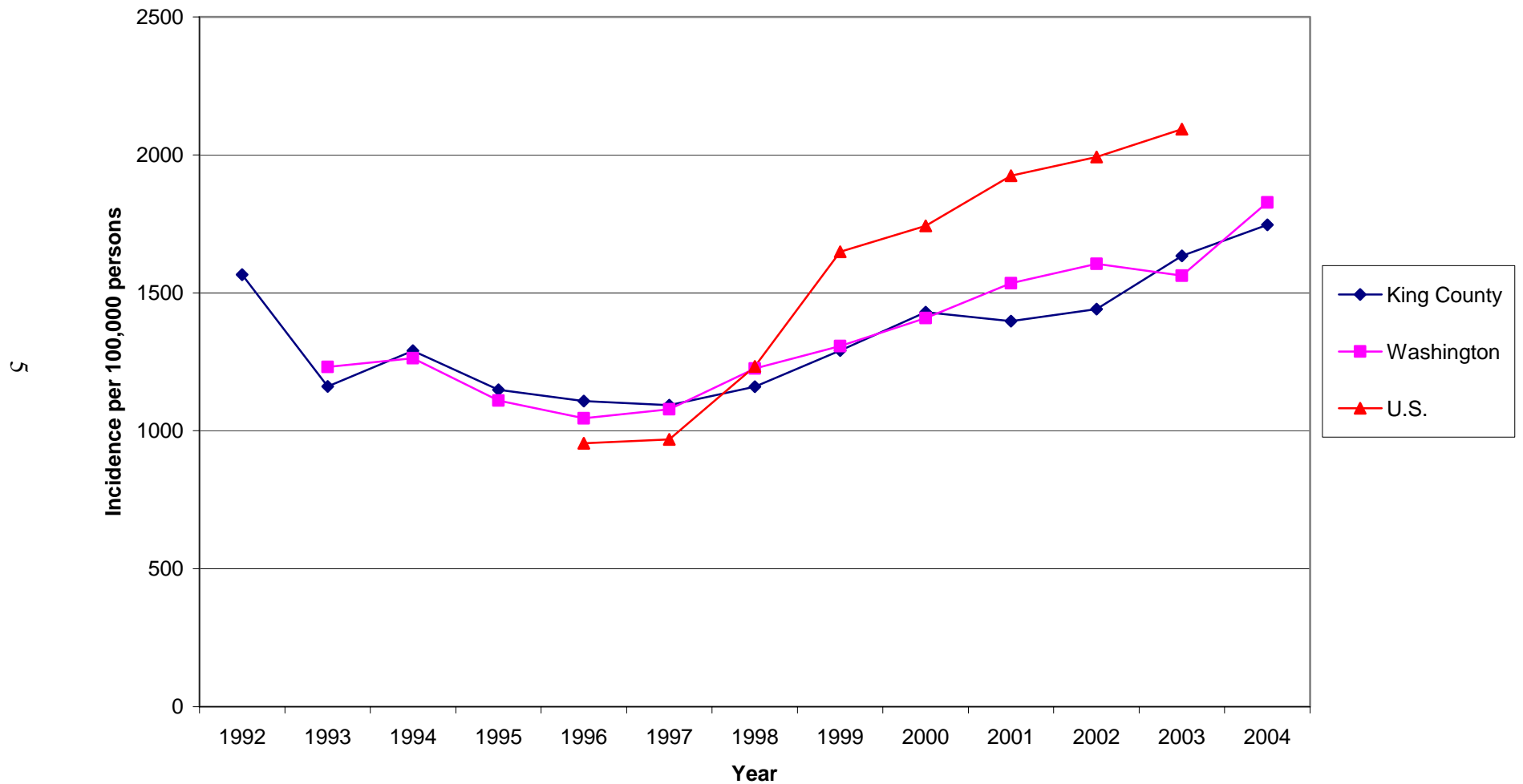
**Table 4: Number of Reported Chlamydia Cases and Incidence among Men and Women
ages 15-29, King County, WA, 1992-2004**

Year	Women, ages 15-29		Men, ages 15-29		Total, ages 15-29	
	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	2718	1391.8	804	451.2	3522	1001.1
1993	2011	1160.2	688	385.5	2699	767.3
1994	2221	1289.8	632	355.3	2853	815.0
1995	1983	1148.5	629	351.4	2612	743.0
1996	1928	1107.9	658	364.0	2586	728.9
1997	1920	1092.8	636	348.3	2556	713.3
1998	2063	1159.9	773	417.4	2836	781.2
1999**	2306	1291.4	897	482.4	3203	878.8
2000	2569	1429.6	990	529.7	3559	970.8
2001	2528	1397.4	910	484.3	3438	932.1
2002	2630	1441.1	1026	542.1	3656	983.4
2003	2998	1634.0	1188	623.7	4186	1119.5
2004	3212	1746.9	1162	609.9	4374	1169.7

* Cases with unknown age were included age specific counts and rates after being distributed among age categories based on the distribution of cases with known age.

** Some PHSKC clinics began using NAATS testing for chlamydial infection in 1994, and all PHSKC clinics were using NAATs by 1999.

Figure 1: Chlamydia Incidence among Women ages 15-29*, 1992-2004
King County, Washington State, and U.S.



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific

**Figure 2: Chlamydia Prevalence Among Women Ages 15-29 in
King County and All Other Washington Counties
Infertility Prevention Project, 1998-2003**

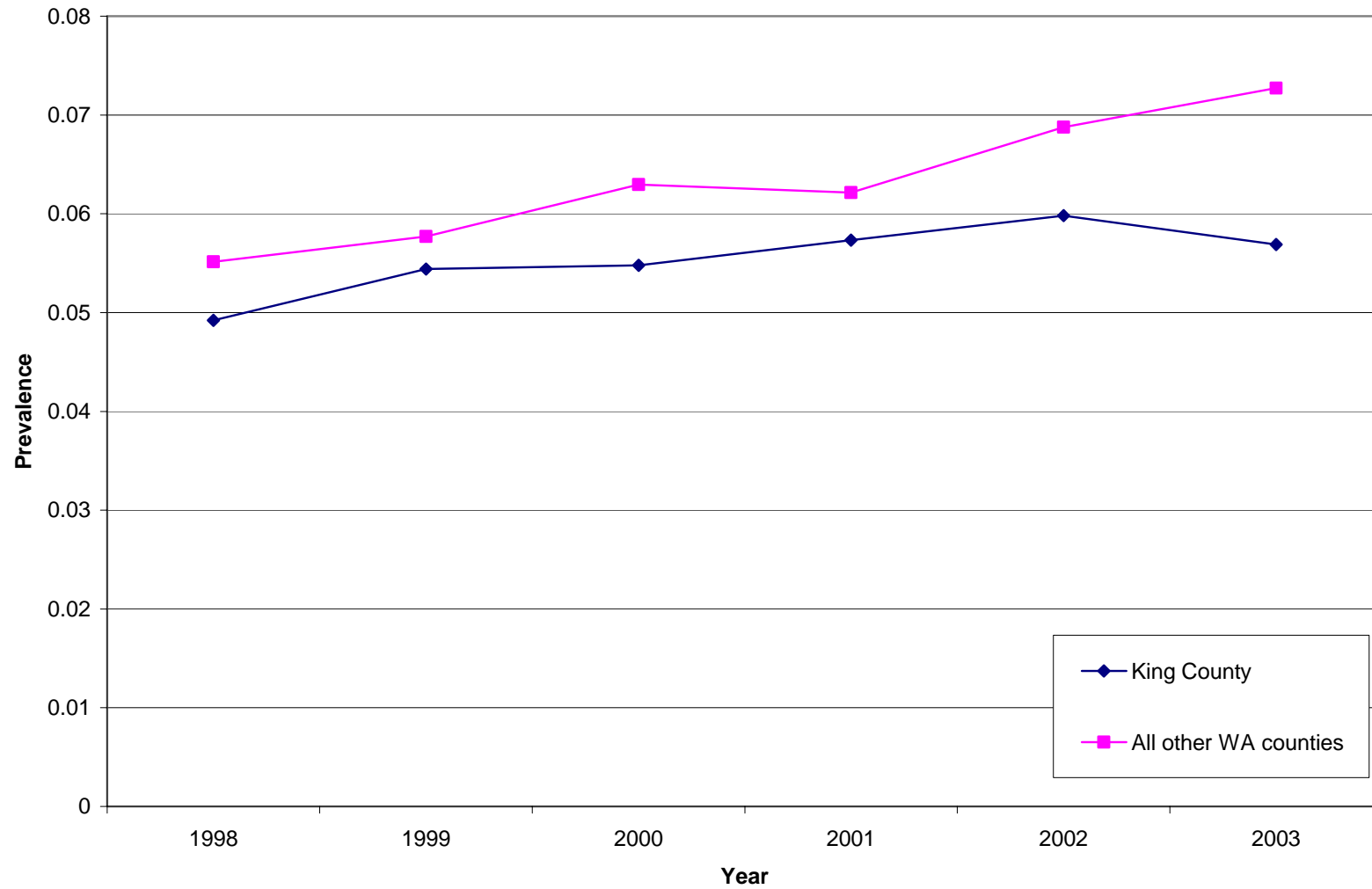
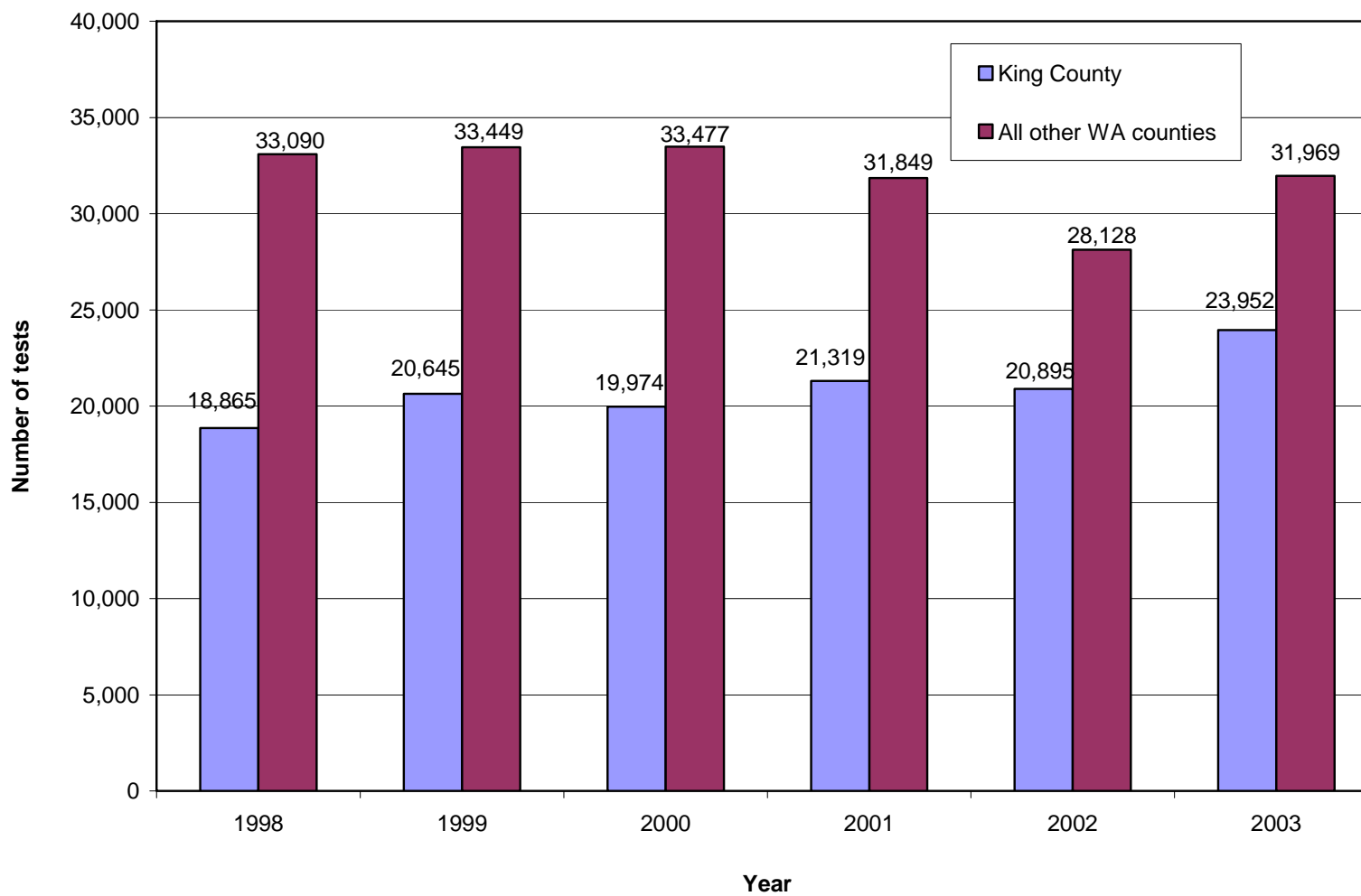
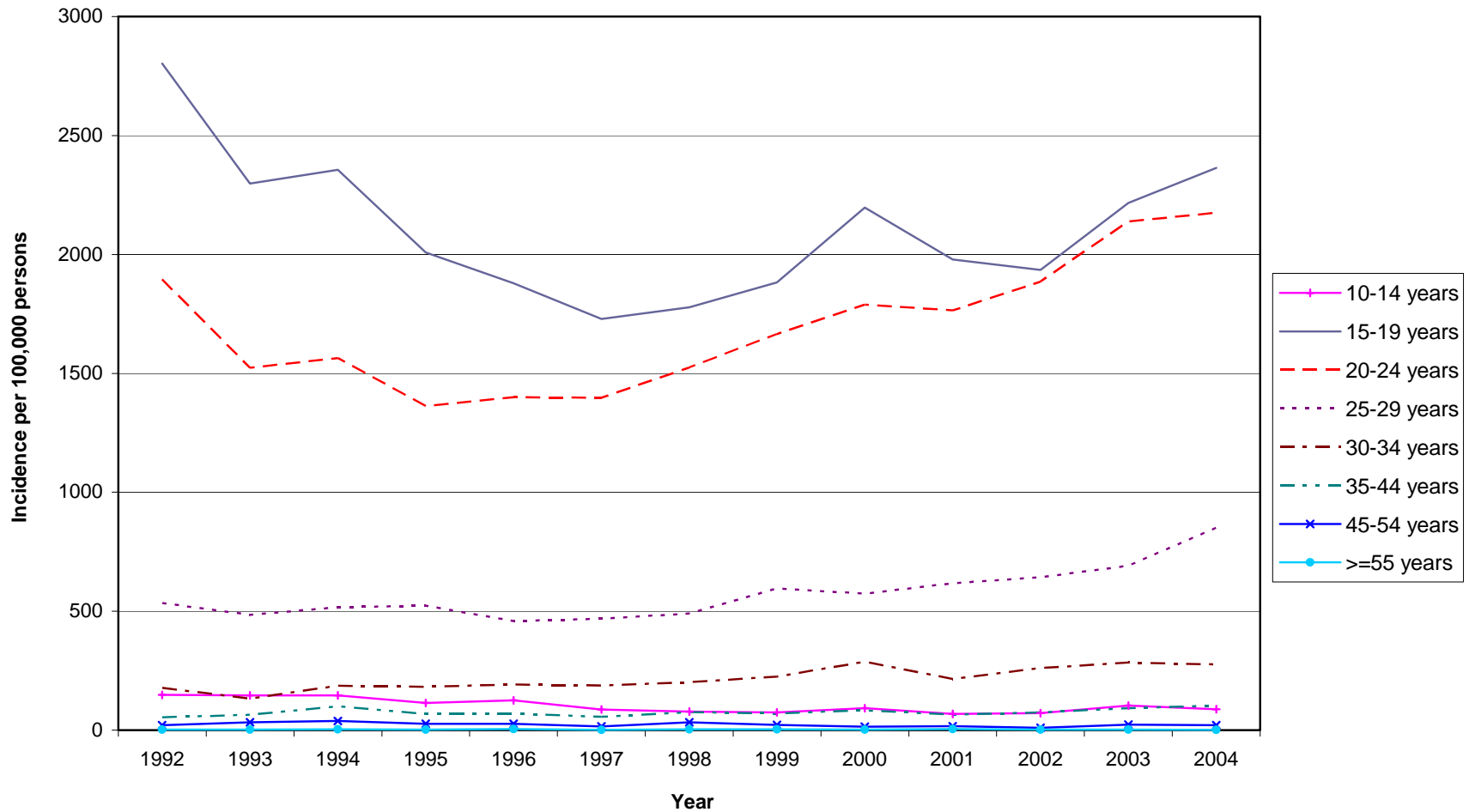


Figure 3: Chlamydia Laboratory Tests Performed in King County and All Other Washington Counties Through the Infertility Prevention Project, 1998-2003

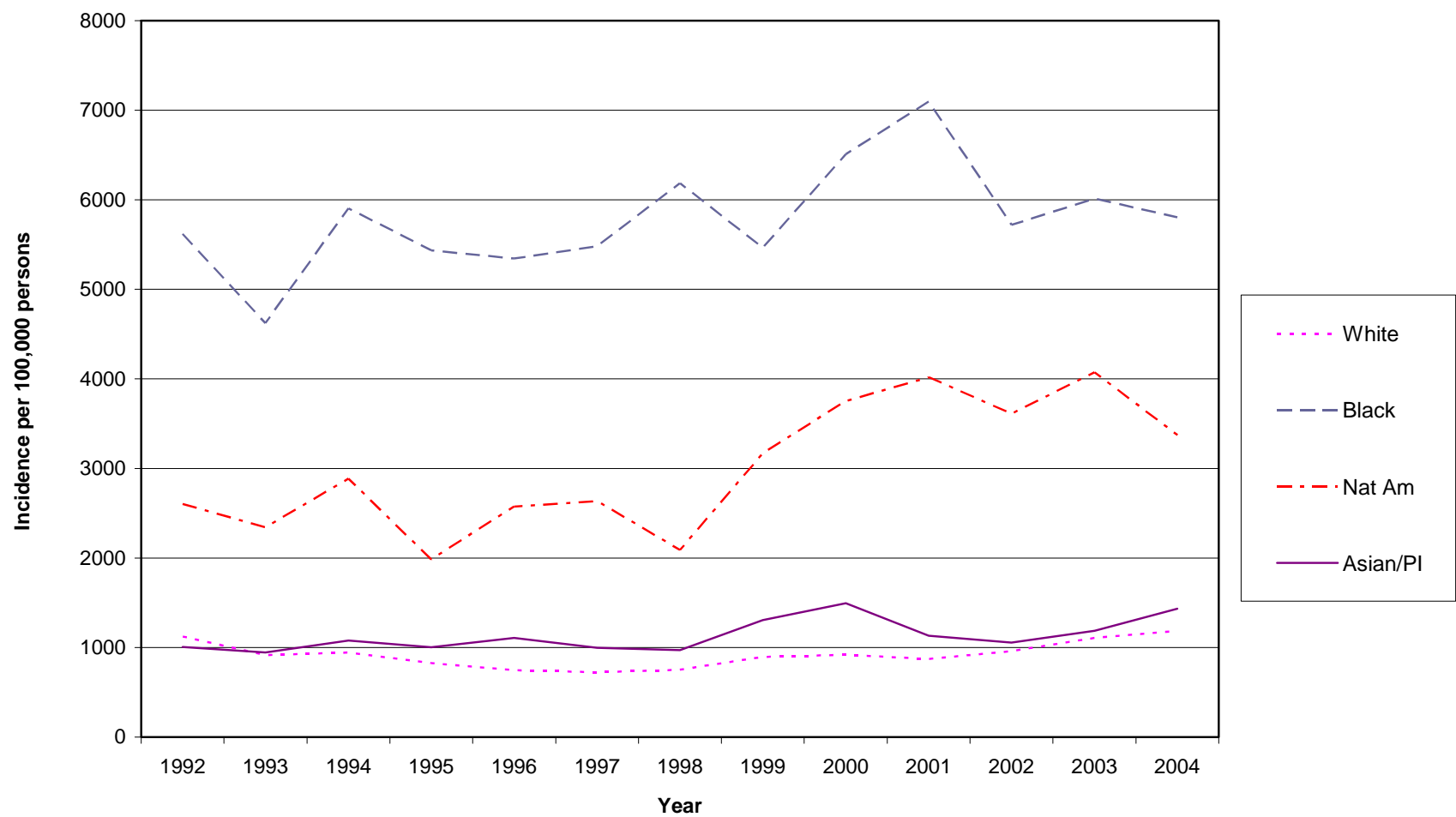


**Figure 4: Reported Chlamydial Infection by Age* Among Women
King County, WA, 1992-2004**



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

Figure 5: Reported Chlamydial Infection by Race Among Women Ages 15-29*
King County, WA, 1992-2004



* Cases with unknown race and age were distributed according to annual race and age distributions among cases with known race and age and included in age-specific rates.

Gonorrhea

In 2004, 1286 gonorrhea cases were reported to PHSKC, for an overall incidence of 72.3 per 100,000 King County residents (Table 5). Continuing trends seen in recent years, gonorrhea incidence was higher among men (97.2 per 100,000 persons) than among women (46.3 per 100,000 persons), probably reflecting a higher incidence of gonorrhea among men who have sex with men (MSM) than heterosexual men or women (see Figures 13).

Similar to patterns observed for chlamydial infection, incidence of gonorrhea was highest in the 15-19 and 20-24 year age groups among women, and the 20-24 and 25-29 year groups among men (Table 6). However, gonorrhea rates among men ages 30-34 and 35-44 were only slightly less than rates for 25-29 year olds, and much higher than 15-19 year olds. This is most likely due to the high incidence of gonorrhea among MSM in King County, who tend to be diagnosed with gonorrhea at older ages than heterosexual men. Large differences in gonorrhea incidence were observed across racial groups in 2004, continuing trends seen in King County for many years (Table 6, Figure 6). Rates of gonorrhea were highest in African American men and women, and lowest in Asian and Pacific Islander men and women. Gonorrhea incidence in African American women and men was 14 and 16 times higher, respectively, than incidence among Asian and Pacific Islander women and men.

Table 7 displays trends in gonorrhea incidence among men and women over time, and Table 8 displays the same trends, limited to 15-29 year olds. The influence of older MSM on gonorrhea rates in the county can be observed from the rates for 15-29 year olds in Table 8, which are very similar (175.4 for women and 176.1 for men), despite overall rates that were almost twice as high among men than women (Tables 5, 7). Gonorrhea incidence among 15-29 year old women in the U.S. as a whole is much higher than in either Washington State or King County (Figure 7). This is likely at least partially due to the different age and race compositions of King County, Washington State, and the U.S. populations. Gonorrhea incidence for 15-29 year old women at the national level for 2004 was not available at the time this report was prepared.

Figures 8 and 9 include women only to better demonstrate trends in gonorrhea among heterosexuals. Gonorrhea incidence in women has been highest among 15-29 and 20-24 year olds since 1992 (Figure 8). Among 15-29 year old women, gonorrhea incidence has consistently been highest among African Americans, followed by Native Americans, and whites and Asian/Pacific Islanders (Figure 9).

**Table 5: Number of Reported Gonorrhea Cases and
Gonorrhea Incidence, King County, WA, 2004**

		Cases	Incidence per 100,000 population
Sex	Women	414	46.3
	Men	872	97.2
Total cases		1286	72.3

**Table 6: Number of Reported Gonorrhea Cases and Incidence, in Men and Women,
by Age and Race, King County, WA, 2004**

		Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
		Women (N=441)		Men (N=872)	
Race*	White	146	24.2	457	73.7
	Black	137	295.5	243	482.9
	Nat Am	18	240.3	10	128.5
	Asian/PI	20	20.2	28	29.5
	Other	4		12	
	Multiple	25		11	
	Unknown	64		111	
Age*	0-9 years	0	0.0	0	0.0
	10-14 years	10	18.4	2	3.5
	15-19 years	149	276.3	44	78.6
	20-24 years	111	176.7	155	242.5
	25-29 years	61	92.0	137	195.3
	30-34 years	25	34.2	138	174.1
	35-44 years	44	30.3	260	172.3
	45-55 years	11	7.9	114	83.1
	>=56 years	2	1.0	20	12.4
	Unknown	1		2	

* Cases with unknown race or age were included in race and age specific rates after being distributed among race/age categories based on the distribution of cases with known race or age. In 2004, among women, 64 case reports were missing race, and 1 missing age, and among men, 111 case reports were missing race, and 2 were missing age.

Race specific rates exclude cases reported with "multiple" or "other" races.

**Table 7: Number of Reported Gonorrhea Cases and Incidence among Men and Women
King County, WA, 1992-2004**

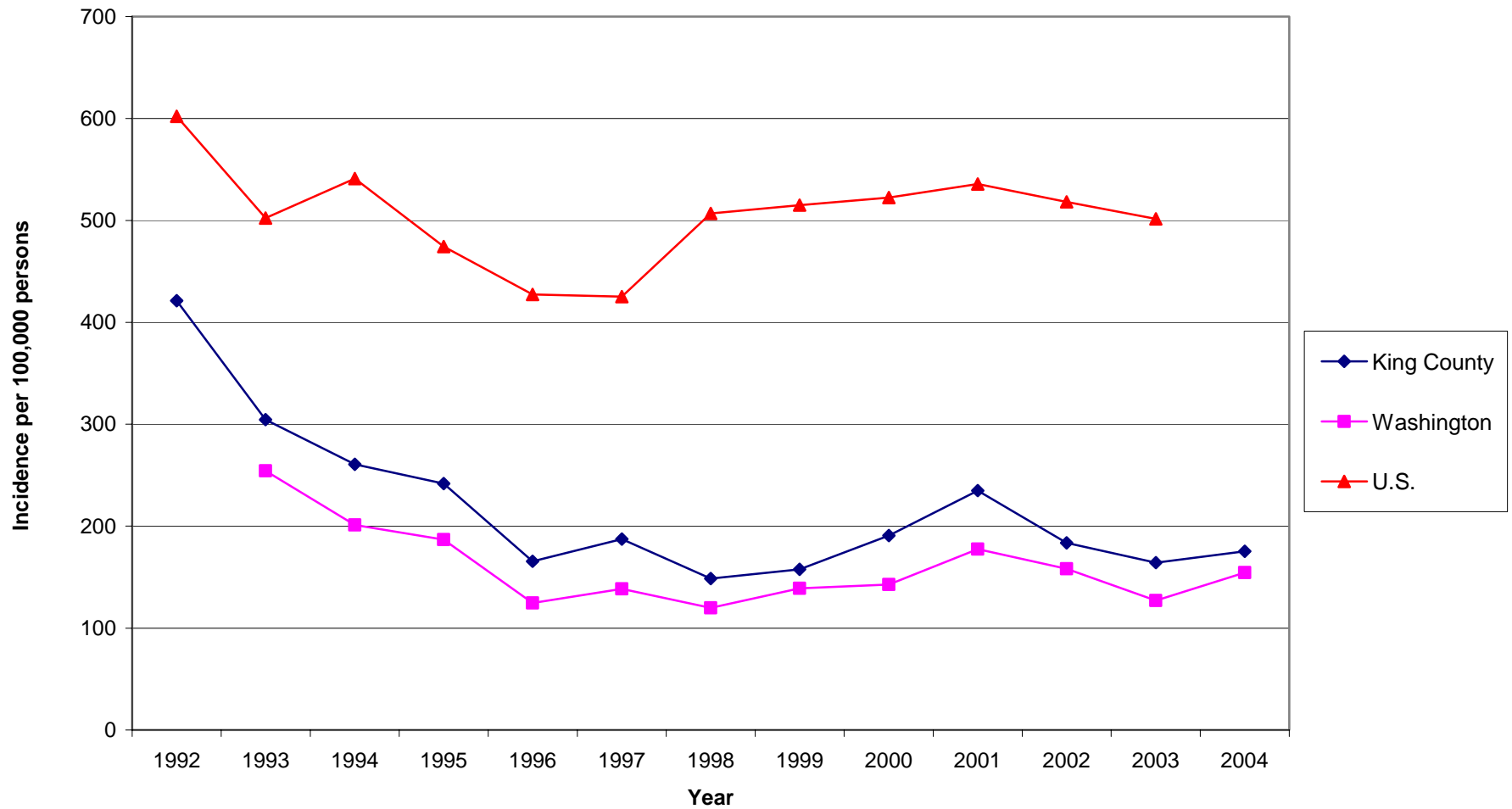
Women			Men		Total	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	903	113.0	1052	134.8	1955	123.8
1993	648	79.8	879	110.6	1527	95.1
1994	541	66.0	675	83.9	1216	74.9
1995	517	62.4	763	93.7	1280	77.9
1996	354	42.4	559	67.9	913	55.0
1997	396	46.9	519	62.2	915	54.5
1998	324	37.9	656	77.5	980	57.6
1999	342	39.6	605	70.7	947	55.1
2000	452	51.8	775	89.7	1227	70.6
2001	564	63.9	984	112.4	1548	88.0
2002	428	48.0	1025	116.1	1453	81.9
2003	403	45.1	946	106.8	1349	75.8
2004	414	46.3	872	98.5	1286	72.3

**Table 8: Number of Reported Gonorrhea Cases and Incidence
Among Men and Women ages 15-29,* King County, WA, 1992-2004**

Women, ages 15-29			Men, ages 15-29		Total, ages 15-29	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	731	421.1	691	387.8	1422	404.2
1993	528	304.7	510	285.7	1038	295.0
1994	449	260.8	407	228.9	856	244.6
1995	417	241.7	410	229.5	828	235.5
1996	288	165.5	291	161.2	579	163.3
1997	329	187.3	243	132.9	572	159.6
1998	264	148.6	318	172.0	583	160.6
1999	281	157.5	297	159.5	578	158.6
2000	343	190.7	304	162.6	647	176.4
2001	425	234.9	422	224.6	847	229.7
2002	335	183.6	442	233.5	777	209.0
2003	301	164.3	368	193.2	669	179.0
2004	322	175.4	337	176.8	659	176.1

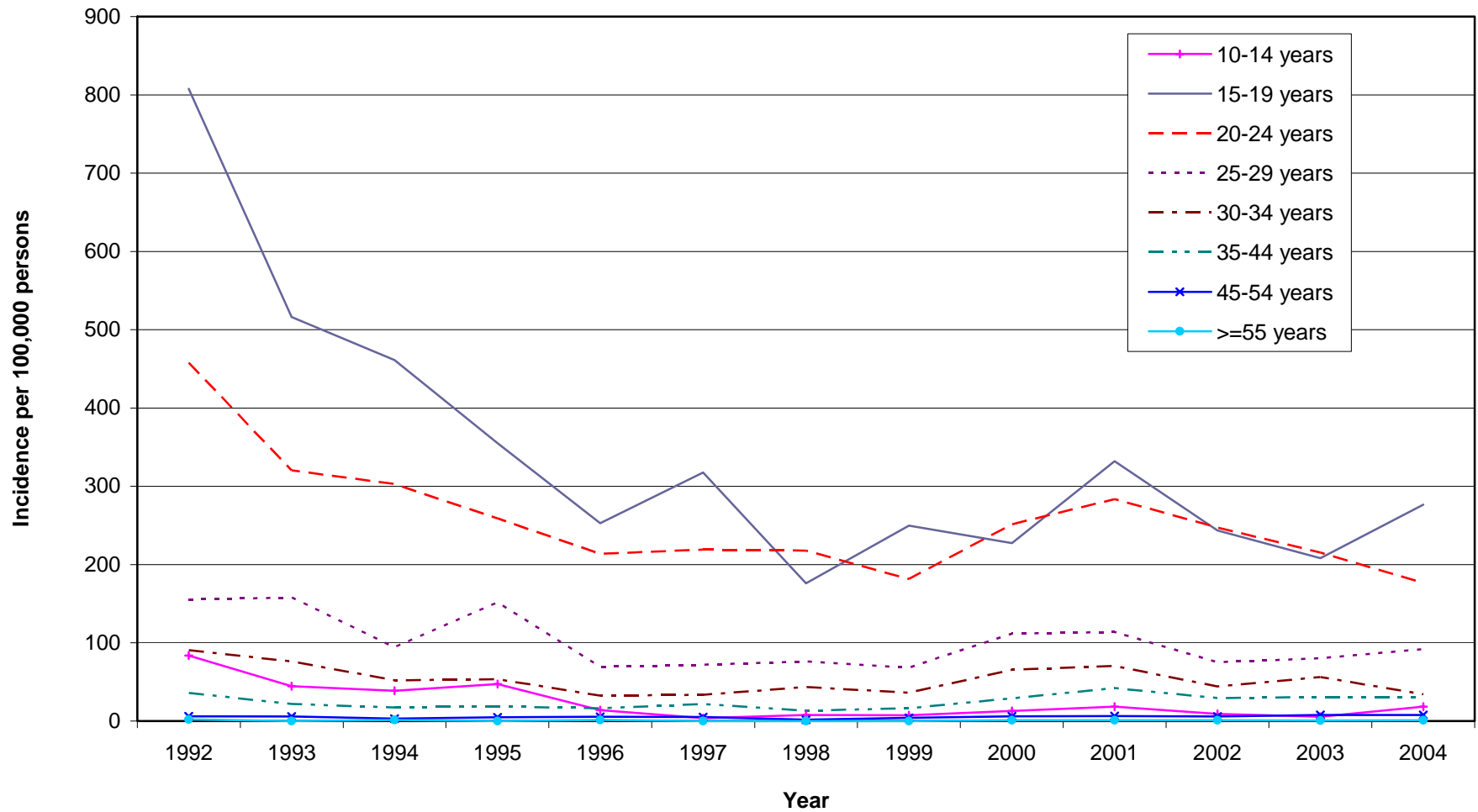
* Cases with unknown age were included age specific counts and rates after being distributed among age categories based on the distribution of cases with known age.

Figure 6: Gonorrhea Incidence among Women ages 15-29, 1992-2004
King County, Washington State, and U.S.



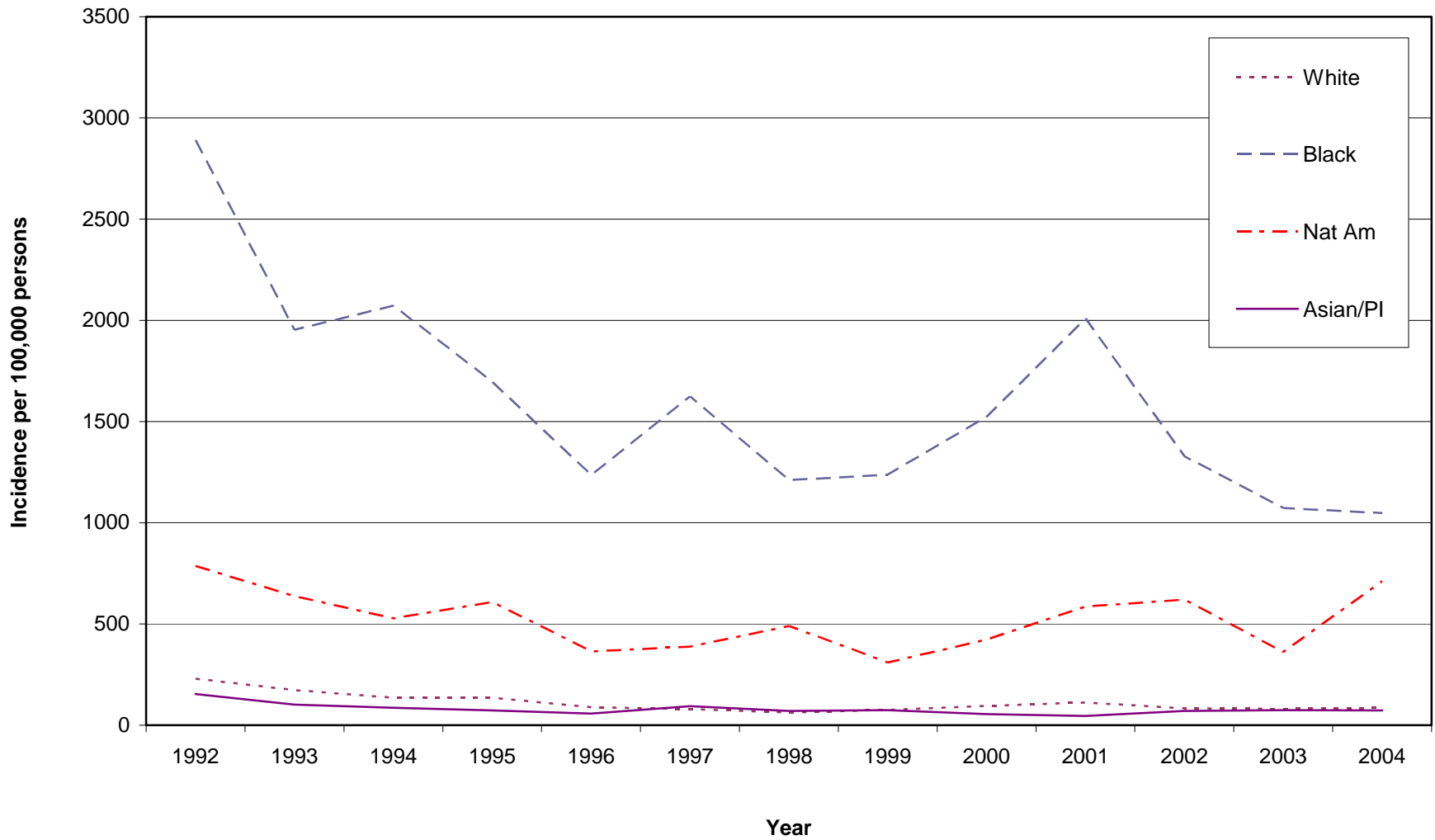
* For the U.S. and King County, cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

**Figure 7: Gonorrhea Incidence by Age* Among Women
King County, WA, 1992-2004**



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

**Figure 8: Gonorrhea Incidence by Race Among Women Ages 15-29
King County, WA, 1992-2003**



Syphilis

The number of primary, secondary, and early latent syphilis cases reported in King County more than doubled in 2004, from 82 in 2003 to 166 in 2004 (Table 9, Table 11). Correspondingly, the crude incidence of early syphilis rose from 4.6 per 100,000 in 2003 to 9.3 per 100,000 persons in 2004 (Table 11). In recent years, early syphilis has been concentrated in the MSM population in King County, and the number of cases and incidence among MSM continued to rise in 2004 (Table 12, Figures 9). However, King County also experienced an outbreak of syphilis among heterosexuals in 2004, with the number of heterosexual cases growing from 6 in 2003 to 26 in 2004 (Table 10, Figure 9).

Syphilis among King County MSM reached epidemic proportions in 1998, and this epidemic is ongoing. Early syphilis incidence among MSM increased sharply from 2003 (178.4 per 100,000 persons) to 2004 (324.4 per 100,000 persons) [Table 12]. Throughout the current epidemic, syphilis has disproportionately affected HIV positive MSM. This disparity in syphilis rates by HIV status was most pronounced during the early years of the epidemic, when rates among HIV positive MSM were typically over twenty times greater than among HIV negative MSM (Figure 11). However, since 2002, rates among HIV negative MSM have climbed quickly, somewhat reducing this disparity, and in 2004 42% of all early syphilis cases occurred in HIV negative MSM (Figure 10).

While the increase in early syphilis cases among King County heterosexuals in 2004 is cause for concern, the 2004 incidence among heterosexuals was low when compared to that among MSM. Incidence rose from 0.41 in 2003 to 2.58 per 100,000 persons in 2004 among heterosexual men, and from 0.22 in 2003 to 0.90 per 100,000 persons in 2004 among women (Table 9).

Characteristics and behaviors reported by MSM and heterosexual syphilis cases in 2004 varied widely (Table 10). Over half of MSM syphilis cases were HIV positive, while only 1 (4.2%) heterosexual case was HIV positive. MSM were more likely to report having anonymous sex partners and using the internet to recruit sex partners when compared to heterosexuals. One quarter of MSM reported attending bathhouses. Heterosexuals were much more likely to report trading sex for money, drugs or other items (50% of women), or having sex with a known sex worker (63.2% of heterosexual men), than were MSM (0.7%).

**Table 9: Reported Cases and Incidence of Early Syphilis
King County, WA, 2004**

		Cases	Percent	Incidence per 100,000 population
Sex	Men	159	95.2	18.0
	Women	7	4.8	0.8
Total cases		166		9.3

**Table 10: HIV Status and Risk Behaviors among Syphilis Cases
By Gender and Sexual Orientation, King County, WA, 2004**

		MSM* N=140		Heterosexual Men N=19		Heterosexual Women N=7	
		Number	Percent	Number	Percent	Number	Percent
Stage	Primary	30	22.1	9	47.4	2	28.6
	Secondary	71	50.7	7	36.8	3	42.9
	Early latent	39	27.1	3	15.8	2	28.6
HIV	Positive	79	56.4	0	0.0	1	14.3
	Negative	59	42.1	19	100.0	5	71.4
	Unknown	2	1.4	0	0.0	1	14.3
Drug Use	Yes	54	38.6	9	47.4	5	71.4
	No	66	47.1	2	10.5	2	28.6
	Unknown	20	14.3	8	42.1	0	0.0
Anonymous sex partners during infectious period							
	Yes	96	68.6	7	36.8	2	28.6
	No	35	25.0	8	42.1	4	57.1
	Unknown	9	6.4	4	21.1	1	14.3
Patient uses bathhouses							
	Yes	35	25.0	0	0.0	0	0.0
	No	83	59.3	19	100.0	7	100.0
	Unknown	22	15.7	0	0.0	0	0.0
Internet use to meet partners							
	Yes	38	27.1	0	0.0	0	0.0
	No	67	47.9	9	47.4	4	57.1
	Unknown	35	25.0	10	52.6	3	42.9
Has traded sex for money or drugs (sex worker)							
	Yes	1	0.7	0	0.0	4	57.1
	No	136	97.1	17	89.5	2	28.6
	Unknown	3	2.1	2	10.5	1	14.3
Sex with a known sex worker							
	Yes	1	0.7	12	63.2	0	0.0
	No	136	97.1	5	26.3	5	71.4
	Unknown	3	2.1	2	10.5	2	28.6
Reason for Visit							
	Routine exam	19	13.6	4	21.1	1	14.3
	Symptoms	101	72.1	15	78.9	4	57.1
	Partner notification	17	12.1	0	0.0	2	28.6
	None	3	2.1	0	0.0	0	0.0

*MSM includes all men who acknowledged sex with a man.

**Table 11: Number of Reported Early Syphilis Cases and Incidence among Men and Women
King County, WA, 1992-2004**

Year	Women		Men		Total	
	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	26	3.3	42	5.4	68	4.3
1993	21	2.6	15	1.9	36	2.2
1994	6	0.7	12	1.5	18	1.1
1995	1	0.1	4	0.5	5	0.3
1996	0	0.0	2	0.2	2	0.1
1997	10	1.2	10	1.2	20	1.2
1998	1	0.1	37	4.4	38	2.2
1999	3	0.3	67	7.8	70	4.1
2000	4	0.5	67	7.8	71	4.1
2001	1	0.1	51	5.8	52	3.0
2002	0	0.0	64	7.2	64	3.6
2003	2	0.2	80	9.0	82	4.6
2004	7	0.8	159	18.0	166	9.3

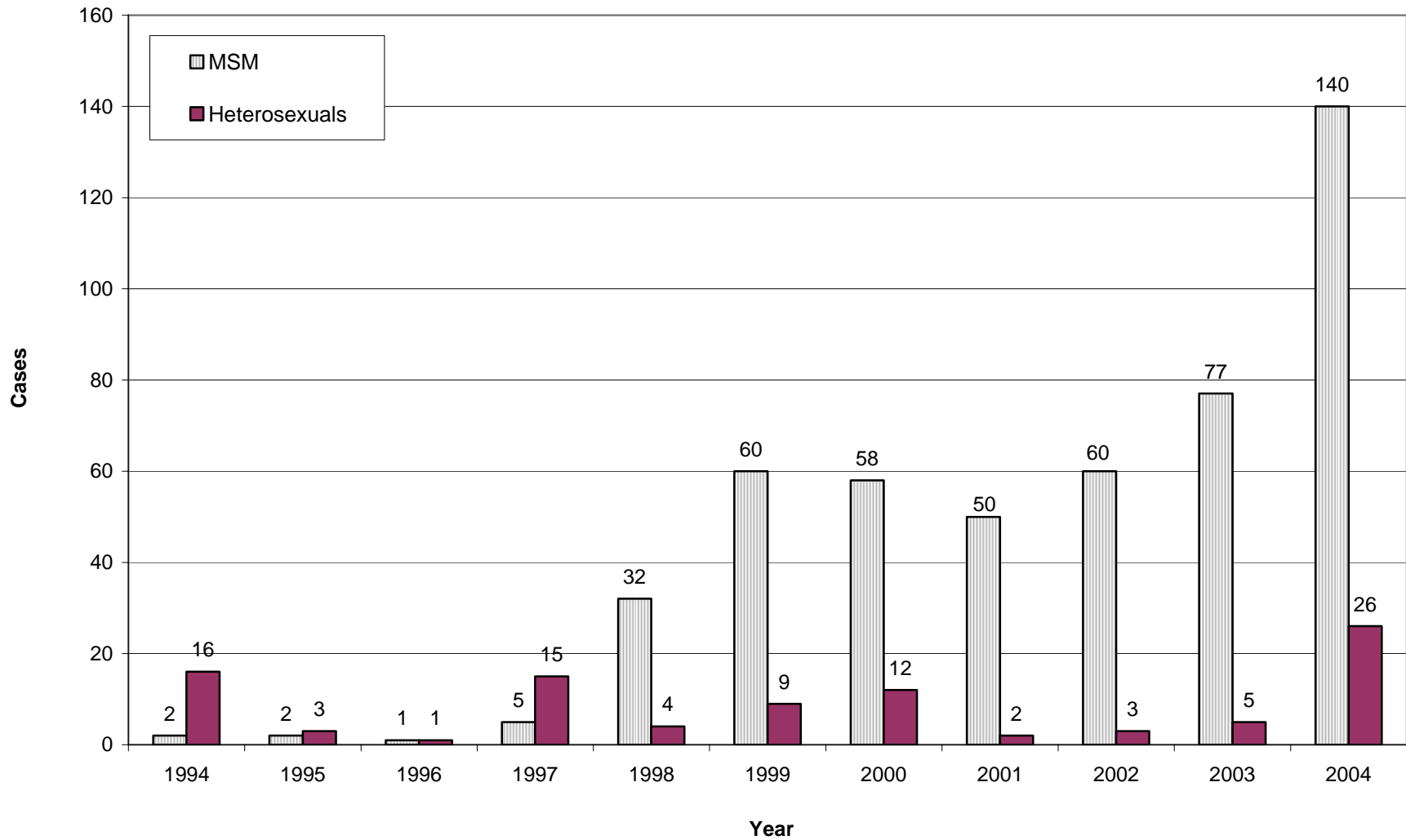
**Table 12: Number of Reported Early Syphilis Cases and Incidence
Among MSM and Heterosexual Men, King County, WA, 1992-2004**

Year	MSM		Heterosexual Men	
	Cases	Incidence per 100,000 population**	Cases	Incidence per 100,000 population
1992*	0	0.0	0	0.0
1993*	1	2.3	5	0.7
1994	2	4.6	10	1.4
1995	2	4.6	2	0.3
1996	1	2.3	1	0.1
1997	5	11.6	5	0.7
1998*	32	74.2	3	0.4
1999*	60	139.0	6	0.8
2000*	58	134.4	8	1.1
2001	50	115.9	1	0.1
2002*	60	139.0	3	0.4
2003	77	178.4	3	0.4
2004	140	324.4	19	2.6

* Men were missing sexual orientation data in the following years (numbers missing are included in parentheses): 1992 (42), 1993 (9), 1998 (2), 1999 (1), 2000 (1), and 2002 (1)

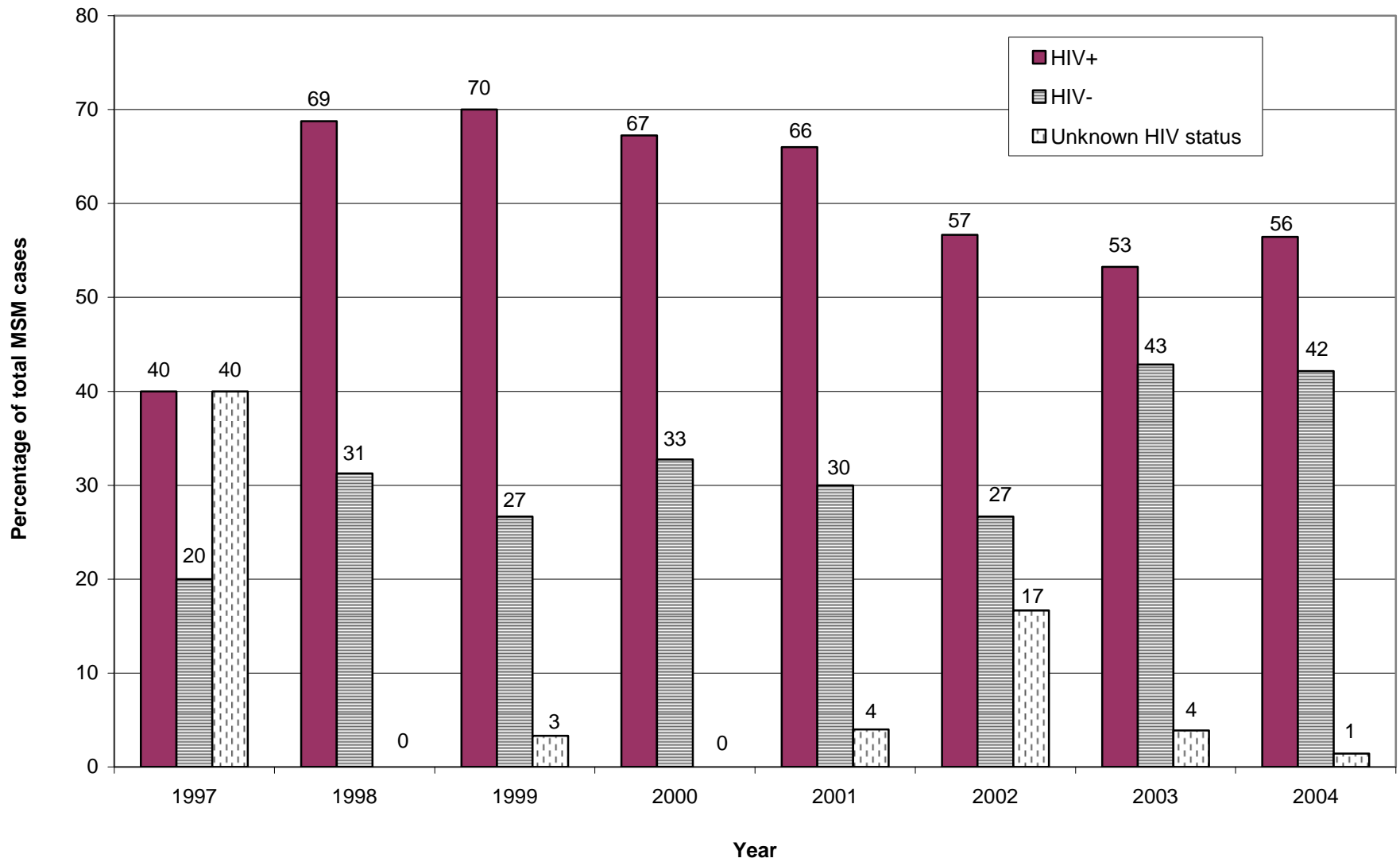
** MSM incidence is based on an MSM population size estimate of 43,150

Figure 9: Reported Cases of Early Syphilis by Sexual Orientation*

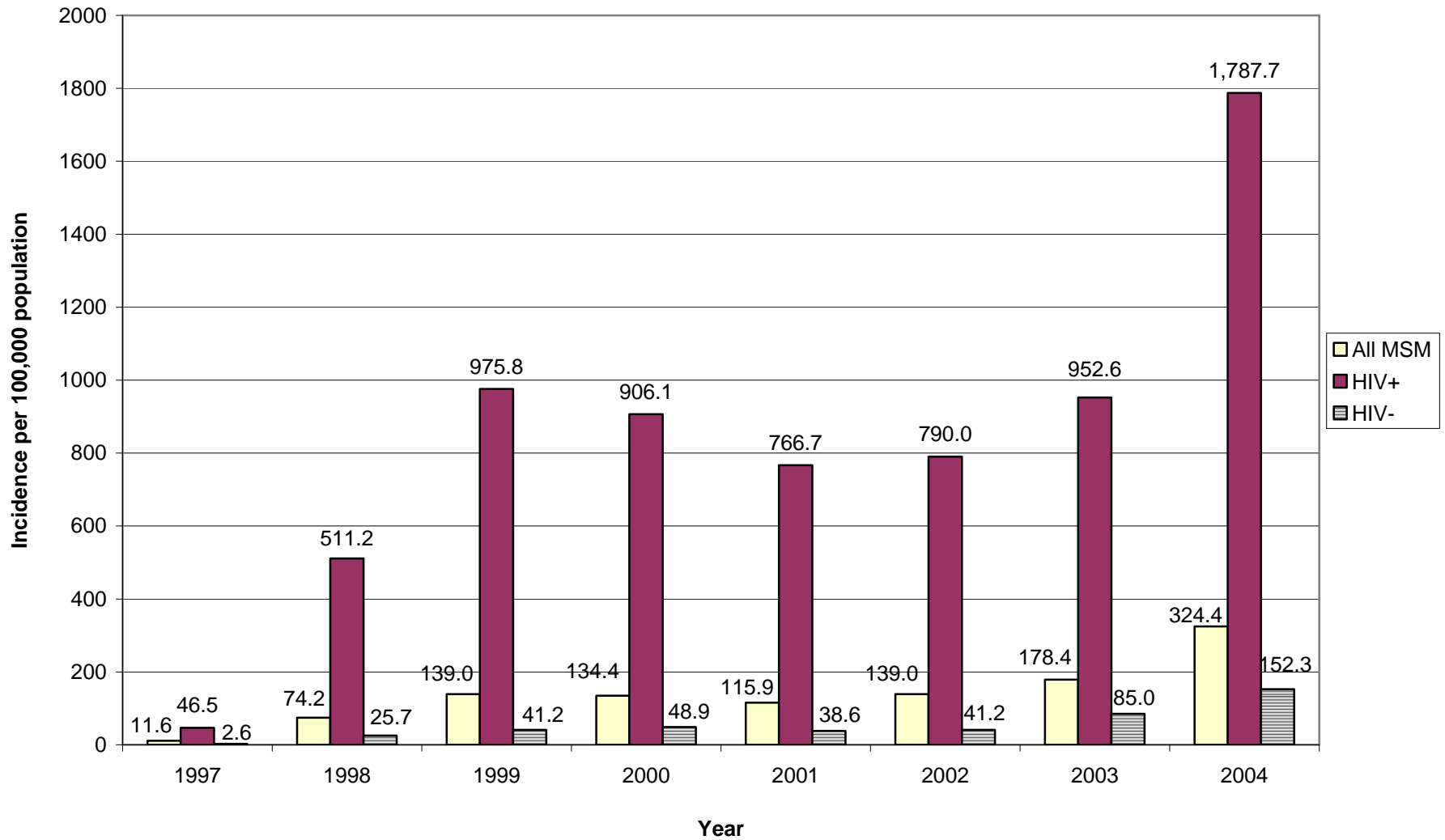


*Data on sexual orientation were missing for men in the following years: 2 men in 1998, and 1 man in 1999, 2000 and 2002.

**Figure 10: Percent of Reported Early Syphilis Cases Among MSM by HIV Status
King County, WA, 1997-2004**



**Figure 11: Early Syphilis Incidence Among MSM by HIV Status
King County, WA, 1997-2004**

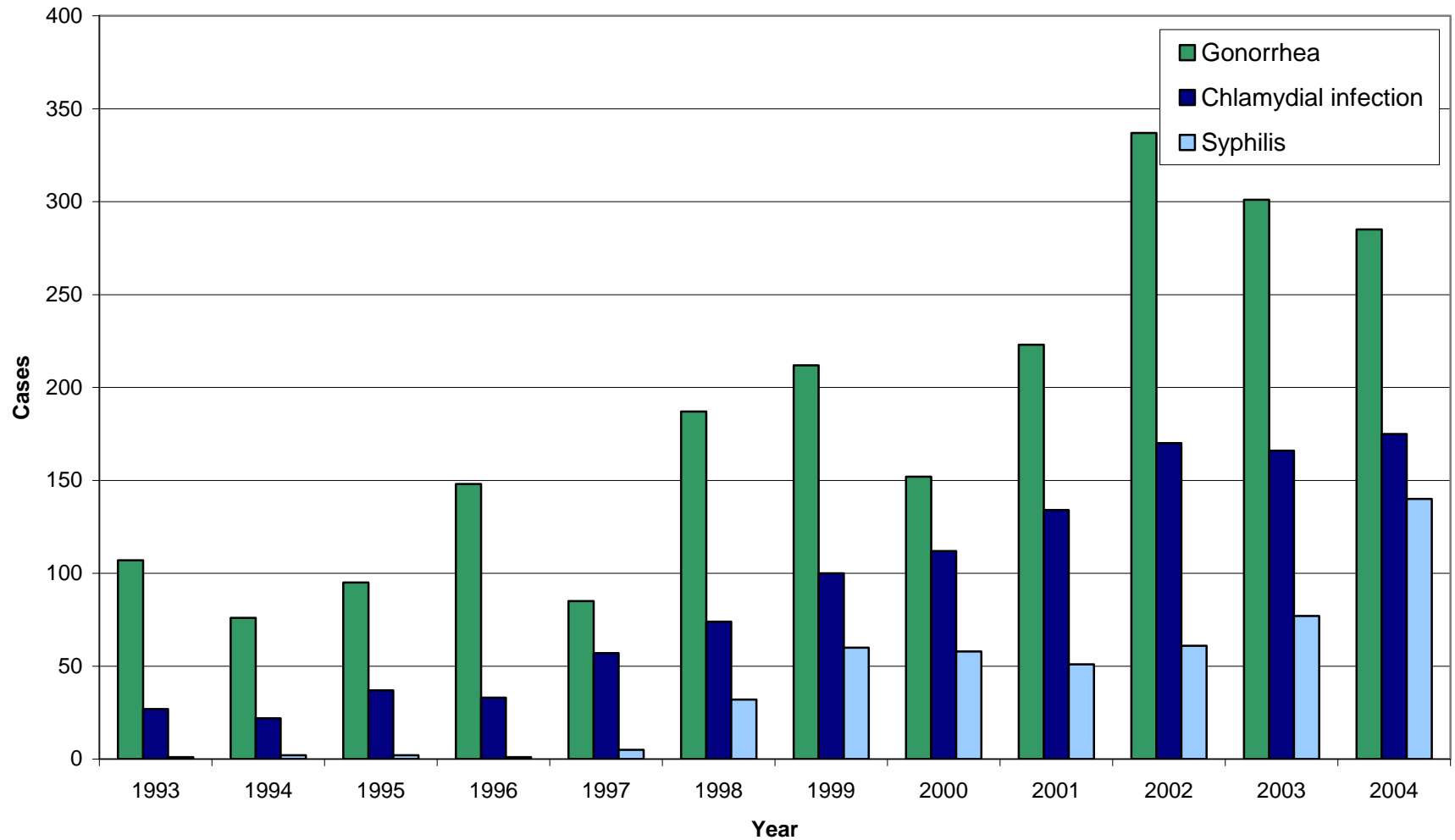


Men Who Have Sex with Men (MSM)

Data on sexual orientation were not routinely collected as part of the case report before 2004, and in 2004, these data were not reported for approximately half of male cases of gonorrhea and chlamydia. Here, we estimate the number of King County MSM diagnosed with gonorrhea or chlamydial infection by adding the numbers of each infection diagnosed among PHSKC STD Clinic MSM patients to the number of rectal gonorrhea and chlamydia infections reported by non-PHSKC STD Clinic providers. These estimates are an underestimate of MSM cases for these two infections, as they exclude non-rectal infections among MSM diagnosed by non-PHSKC STD Clinic providers. However, such estimates do provide information about trends in gonorrhea and chlamydia over time among MSM.

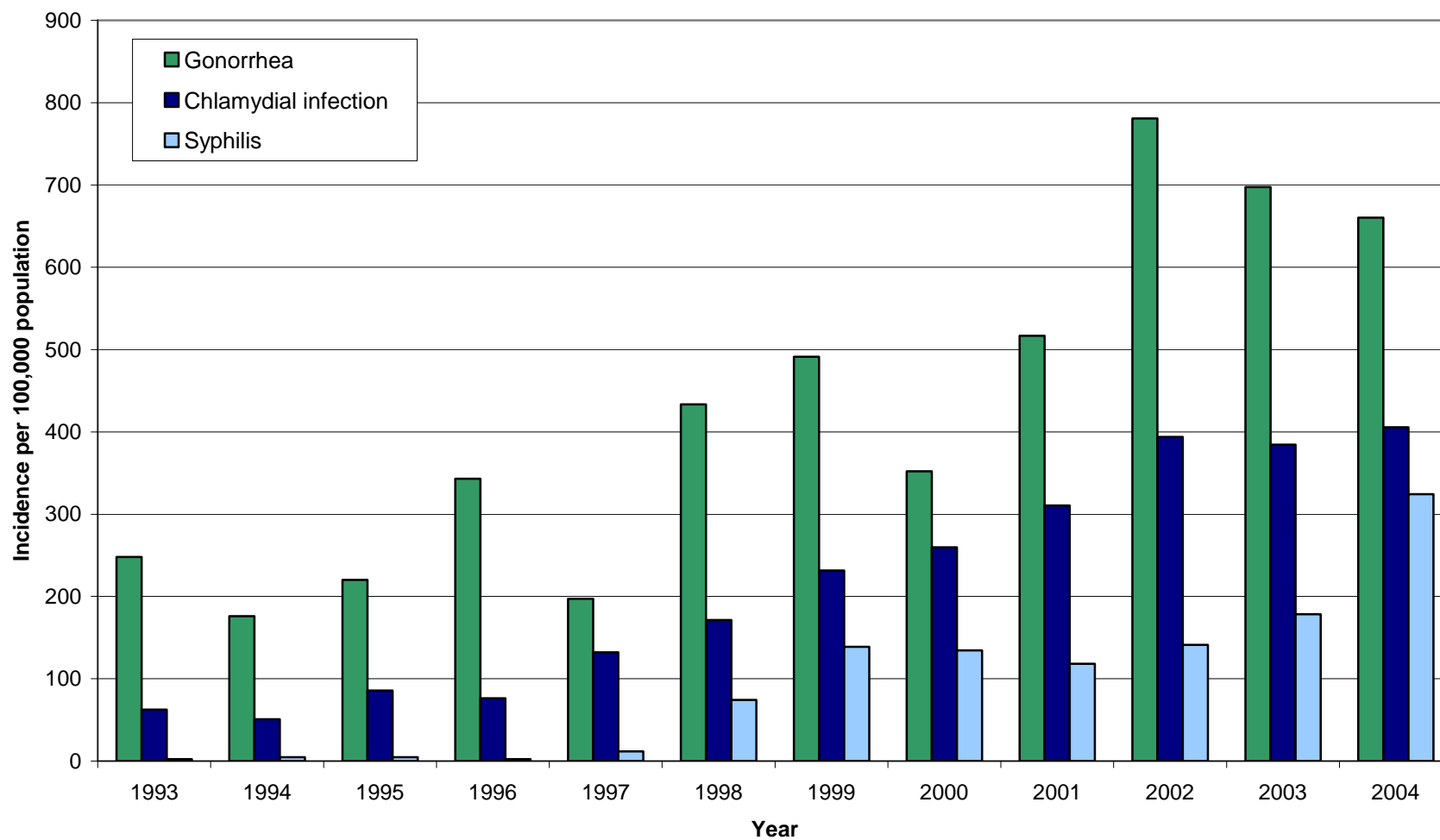
The numbers of gonorrhea, chlamydia, and early syphilis cases diagnosed among King County MSM have increased substantially since 1993 (Figure 33). While chlamydial infections have been increasing steadily over time among MSM, increases in gonorrhea have been less consistent, and gonorrhea diagnoses have decreased since 2002. An epidemic of early syphilis among MSM began in 1998. Recently, this epidemic has accelerated, with the number of MSM early syphilis cases increasing from 77 in 2003 to 140 in 2004 (Figure 33). These increases in the numbers of cases of gonorrhea, chlamydial infection, and early syphilis among MSM are reflected in increasing incidence of these three infections from 1993 to 2004 (Figure 34).

**Figure 12: Gonorrhea*, Chlamydia*, and Early Syphilis among MSM
King County, WA, 1993-2004**



*MSM cases are calculated by summing all PHSKC STD Clinic diagnoses among MSM with all rectal infections reported to PHSKC by other providers.

**Figure 13: Incidence of Gonorrhea*, Chlamydial Infection*, and Early Syphilis Among MSM
King County, WA 1993-2004**



*MSM cases are calculated by summing all PHSKC STD Clinic diagnoses among MSM with all rectal infections reported to PHSKC by other providers.

